

REMARKS

Claims 1-12 have been canceled, and claim 13 has been amended. Further, claims 15 and 16 have been added. Therefore, claims 13-16 are pending in this application.

Without admitting to the propriety of the rejection, Applicants submit herewith a terminal disclaimer to overcome the rejection of claims 13-14 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-12 of U.S. Patent No. 6,325,913.

Claims 13 and 14 stand rejected under 35 U.S.C. § 102 as being anticipated by Sakai et al (EP 0 086 115, hereafter Sakai). Reconsideration of the rejection is requested in view of the amendments made to independent claim 13 and for the following reasons.

The claimed invention is directed to a for a steel strip in which electrodes are arranged on both sides of the steel strip as anodes 23 and cathodes 24, respectively. A power supply 25 applies a voltage between the anodes 23 and cathodes 24 so that an electric current flows from the anodes 23 to the negative charged part of the steel strip 1 between the anodes 23, through the jet streams 31 and the neutral salt solution (electrolyte) film 32 that covers the surface of the steel strip 1, whereby the series electric circuit thus formed is closed independent of the electrolyte bath in tank 21.

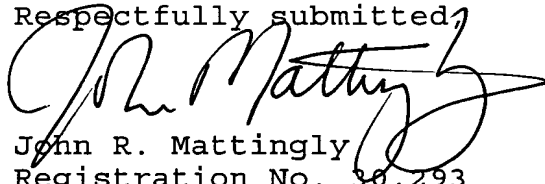
On the other hand, in conventional electrolysis, the anodes and the cathodes are immersed in the electrolyte and a short-circuit current passes between them through the electrolyte bath resulting in a large loss of power. Since the current passes through the jets streams of the electrolyte and on each surface of the steel strip in the present invention, the electric power efficiency improves. Further, the positive charged part of the steel strip 1 between the cathodes 24 locally becomes an anode 33 where chrome oxide in the oxide film ionizes according to the chemical reaction (1) set forth on page 9 of the specification. Then, the oxide chrome ions are dissolved in the electrolyte 20 and collect in the electrolyte tank 21 to eliminate the chrome oxide from the surface of the steel strip 1.

Claims 13-15 set forth that an electric current passes between the jet(s) of the electrolyte and the steel strip so that the chrome oxide film on the steel strip ionizes by chemical reaction and dissolves in the electrolyte. Sakai, however, discloses a steel strip plating apparatus. As shown in Fig. 4, the electrodes 65 and 66 are anodes and the steel strip is made to be a cathode by applying a voltage potential from the power supply 77 respectively to the electrodes and the feeding roller 61 through which the steel strip passes. Thus, Sakai does not disclose or render obvious the invention as claimed in claims 13-16.

Applicants submit herewith a Request for Approval of Proposed Drawing Corrections to Figures 2 and 5B and formal drawings that incorporate the changes. The reference numbers that have been added to these figures are shown in red ink and were required to be added in the prosecution of the parent application.

In view of the foregoing amendmennts and remarks, reconsideration and reexamination are respectfully requested.

Respectfully submitted,



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